(4)

Sept. 13, 1988

MEMORANDUM TO: Distribution

SUBJECT: Compression of messages in TPF

Increasingly, we find that traffic through the Prodigy network is related to transactional requests such as shopping, banking, travel, etc. In order to reduce the response times to subscribers using these services it appears desireable to compress transactional messages at TPF before they are sent to the subscriber. This memorandum provides specifications for such an implementation. As per discussions held 9/13/88, Jim Beall would like to see this implemented in release 7.0 of the reception system.

Currently Objects may be compressed by the Producer system and de-compressed on the reception system. We propose that transactional response messages can be compressed on TPF using the same algorithm as that for objects, and de-compressed on the reception system using the same de-compression algorithm. Required is a means for recognizing when a message is compressed and a means for determining whether a reception system can support message compression.

CONVENTIONS:

The DIA FM0 Compression/Compaction bit indicator is set to 1 when a reception system which supports message compression sends a "Request" message upstream.

Before TPF returns a "Response" to a reception system it will examine the FM0 compression bit (stored in the IRQE) to determine whether it should invoke the compression routine. If the response is compressed TPF will leave this bit on (1) when the message is sent to the requesting reception system.

The use of the compression bit on the "Request" indicates that the reception system is capable of dealing with compression. This provides us with a migration path: an ability to support back-level reception systems.

Objects are not to be compressed by TPF.

The DIA Compression Header (FM127) is the last DIA header in a message.

Compression is only to be done upon the "data" portion of a message. No DIA headers are to be compressed. FM64 TEXT and FM9 TEXT are not to be compressed.

Only messages destined for the reception system are to be compressed and, again, only if they are responses to requests made with the FM0 compression bit set to 1.

In addition to the FM0 compression bit setting, the DIA FM127 header is to be included when sending compressed messages from TPF to the reception system.

The reception system interface to the de-compression routine should conform to the current interface which exists for object de-compression. Upon encountering a "Response" with the FM0 compression set to 1 the Reception system should look for an FM127 header. This header contains the same information as is contained in the existing Object Compression Segment. It should be used in the same fashion when calling the de-compression routine. Messages should be de-compressed before they are handed off to applications.

DIA FM127 Header layout:

Byte 0	Header Length x'08' 0000 1000
Byte 1	Header Type x'127' 0111 1111
	Note: Concatenation indicator is off.
Bytes 2 - 3	Length of compressed data
	Note: Intel format (low byte, high byte)
Bytes 4 - 5	Length of data before compression
	Note: Intel format (low byte, high byte)
Byte 6	Decompression Table Number
Byte 7	Reserved x'00' 0000 0000

It is highly desireable to include this implementation in plans for the next release of the reception system.
Thank you for your cooperation.

Robert Filepp

cc: Mr. C. Barlow
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